

**We claim:**

1. A system for establishing secured communications pathways across an open unsecured network using mobile code, comprising:

an authentication server;

at least one application server arranged to be connected to the authentication server by a secured pathway; and

at least one platform-independent mobile code authentication and encryption program,

wherein said authentication server is arranged to supply said platform-independent mobile code authentication and encryption program to a user's computing device upon authentication of the user,

wherein said platform-independent authentication and encryption program is arranged to authenticate itself to the authentication server to establish a secure communications pathway without requiring pre-installation of authentication and encryption client software on the user's computing device, and

wherein said platform-independent mobile code authentication and encryption program is arranged to the transmit data from the user's computing device to an application server by encrypting the data and transmitting the data to the authentication server for forwarding to the

application server, and by decrypting data originating from the application server and transmitted via the authentication server.

2. A system as claimed in claim 1, wherein said platform-independent mobile code authentication and encryption program is a java applet.

3. A system as claimed in claim 1, wherein said user's computing device is selected from the group consisting of a thin-client computing device and a mobile computing device having an installed communications program, but no pre-installed authentication certificates or authentication and encryption software.

4. A method of establishing secured communications pathways across an open unsecured network using mobile code, comprising the steps of:

upon connection of a user's computing device to an authentication server over an open network, requesting authentication information from the user;

upon authentication of the user by the authentication server, downloading mobile code including an authentication and encryption client from the authentication server to the user's computing device;

causing the authentication and encryption client to authenticate itself to the authentication server;

upon authentication of the authentication and encryption client, opening a secure communications channel between the user's computing device and the authentication server, said secure communications channel permitting transfer of data between the user's computing device and an application server.

5. A method as claimed in claim 3, wherein the authentication information requested from the user is a password.
6. A method as claimed in claim 3, wherein the steps of authenticating the authentication and encryption client, and of opening a secure communications channel include the step of developing a session key for use in encrypting communications between the user's computing device and the authentication server.